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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/843,597	04/26/2001	Thomas W. Mossberg	5455P001X	8757
23892	7590	06/30/2004	EXAMINER	
DAVID S ALAVI 3762 WEST 11TH AVENUE #408 EUGENE, OR 97402			CURTIS, CRAIG	
			ART UNIT	PAPER NUMBER
			2872	

DATE MAILED: 06/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/843,597	Applicant(s) MOSSBERG, THOMAS W.	
	Examiner Craig Curtis	Art Unit 2872	

-- **Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --**
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2004.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-84 is/are pending in the application.
4a) Of the above claim(s) 1-38, 51-63, 67-74, 76-80, 83 and 84 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 39-50, 64-66, 75, 81 and 82 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/11/01, 11/12/02, 4/14/03</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Disposition of the Instant Application

- This Office Action is responsive to Applicant's 3 March 2004 Response to Requirement for Restriction mailed to Applicant on 24 September 2003.
- Applicant has elected without traverse Group II, drawn to a method of using for prosecution, and has identified claims 39-50, 64-66, and 75-82 as reading thereon. It is noted, however, that while claims 39-50, 64-66, 75, 81, and 82 can legitimately be viewed as reading on the elected invention, claims 76-80, which depend from claim 74 (drawn to a non-elected invention, Group I), cannot.
- Accordingly, claims 39-50, 64-66, 75, 81, and 82 alone will be examined as to their merits, claims 1-38, 51-63, 67-74, 76-80, 83, and 84 being withdrawn from further consideration by the Examiner as being directed to non-elected inventions.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter that the Applicant regards as his invention.

1. **Claim 40 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that Applicant regards as the invention.** More specifically, the recited energy forms (viz., electromagnetic, thermal, photonic, acoustic, nuclear, and chemical) are not (with the possible exception of electromagnetic, thermal, and photonic, for which some

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consonance may obtain--unless, for example, Applicant actually intended to recite electrical and not electromagnetic) members of the same class.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 39-50, 64-66, 75, 81, and 82 are rejected under 35 U.S.C. 103(a) as being unpatentable over Babbitt et al. (5,812,318) in view of Popovich (6,323, 970).

With regard to claim 39, Babbitt et al. disclose the invention as claimed—[a] method comprising:

a programmed holographic structure comprising a set of optical characteristics, said programmed holographic structure that outputs (optical pulses—read: output optical signals) that propagate in a direction, relative to the material comprising said programmed holographic structure, corresponding to directional information provided during programming. And although Babbitt et al. disclose active material that is programmed using one or more input beams or pulses of electromagnetic radiation, said programmed holographic structure disclosed by Babbitt et al. is not dynamically re-configurable such that a first output optical signal that is output from said programmed holographic structure prior to dynamic re-configuration differs in at least one of spatial wavefront and temporal waveform from a second output optical signal comprising a

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respective second spatial wavefront and a respective second temporal waveform, the second output optical signal being output after dynamic re-configuring has been effected.

Popovich, however, provide an explicit teaching of a dynamically re-configurable programmed holographic structure, the output from which necessarily changes, one output beam reckoned with respect to another output beam, in either at least one of spatial wavefront and temporal waveform (assuming, of course, that one output beam issues from said structure prior to the biasing of said liquid crystal droplets, and a second output beam after the biasing of said liquid crystal droplets). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the programmed holographic structure of Babbitt et al. such that it be dynamically re-configurable, as taught by Popovich, for at least the purpose of enabling a suitable method of multiplexing and demultiplexing of optical signals (it being noted that the programmed holographic structure resulting from the above-described combination of Babbitt et al. in view Popovich necessarily would meet the limitations recited in **claims 64-66, 75, 81, and 82**).

With regard to claim 40, Popovich teaches wherein said structure is subjected to an electrical field, which is taken to meet the *electromagnetic* energy limitation recited by Applicant in this claim. See abstract.

With regard to claim 41, please see Fig. 1 in **Popovich** (esp. the conductive traces issuing from controller 16)

With regard to claim 42, the electrical field taught by **Popovich** modifies the index of refractive of the disclosed liquid crystal droplets.

With regard to claim 43-50, please see, e.g., segments 42 in **Popovich**.

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Contact Information

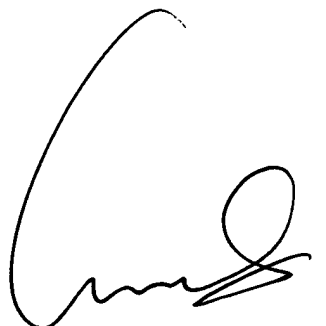
3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig Curtis whose telephone number is (571) 272-2311.

The examiner can normally be reached on Monday-Friday, 9:00 A.M. to 6:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A. Dunn can be reached on (703) 308-1687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C.H.C.
Craig H. Curtis
Group Art Unit 2872
25 June 2004



Audrey Chang
Primary Examiner
Technology Center 2800